Press Release

Energy savings, plus rebate, result in two-year payback on retrofit of lights in New Berlin main office and factory facility

(With the installation of highly energy-efficient fluorescent lights throughout the 95,000 square-foot manufacturing plant, plus the modification of office lights, the facility will realize a reduction of 193 tons of CO2 annually, reduce energy consumption by at least 25 %, and realize $35,300 annual savings)

NEW BERLIN, WI, November 11, 2008 . . . One New Year's resolution the factory at ABB's campus in New Berlin already is making good on is reducing energy consumption – by at least 25 percent per year, via a retrofit of lighting in the main office and production facility, alone. The reduction results from re-bulbing 927 lights in the 56,000-square-feet office space, and the replacement of 350 existing metal halide lights with new, more efficient fluorescent lights in the 95,000-square-feet factory. The retrofit, slated for completion by mid-November, is just one of many proactive steps the campus has taken to be a smart user of energy.

From the Office to the Factory – Lights First!

In 2007, ABB's global sustainability team requested that each ABB location reduce its energy consumption by 5%. "After doing research and finding that 40% of all fossil fuels are used to generate electricity, it seemed like lighting, which we cannot be without, was the logical place to start," noted Jerry Ulatowski, facilities manager. ABB New Berlin began by modifying all of the office fluorescent fixtures – more than 927 units in all – with electronic ballasts and more economical T8 fluorescent bulbs. This earned the company a $7,400 energy rebate from the local utility, and resulted in $12,000 annual savings, which are ongoing.

After the process of reviewing, planning, and bidding, an extensive plan was approved to replace all the lights in the factory. "The factory has changed a lot since we moved into the building approximately 25 years ago," said Ulatowski. "Through our ongoing Operational Excellence program, and the many Kaizen and LEAN events, the factory has a vastly improved layout that has increased our capacity dramatically. We realized that not only does the lighting need to reflect that change, but updating it was a very practical way to support our sustainability objectives."

It was decided that the lights would be installed during third shift, to eliminate any impact on production. Duane Gaglione, manager and lead for a third-party electrical contractor, Pieper Electric, and his team of five employees, would take on the challenge of replacing each of the 350 lights over a period of 7 days, installing up to 50 lights per night.

Single-bulb Metal Halide to Six-Bulb, Linear Fluorescents

The traditional lights, known as metal halide, were over 25 years old and were original to the building. Due to their dome shape, they had uneven light distribution, which created hot-spots, glare, and harsh shadows. In addition, their magnetic components would expand and contract over time, causing a loud, continuous buzzing sound. The new light fixtures, known as linear fluorescents, include six bulbs – 54 watts each. These lights provide more ambient light, which is distributed evenly, and eliminates the disadvantages of halide fixtures. In addition, the components are controlled electronically, which eliminates any chance of buzzing.

Optimum Production Conditions

For employees assembling drives and working in repair and training throughout the factory, the new fixtures provide more "natural" light, similar to daylight. This reduces eye strain and, report employees, affects mood and productivity positively. The more consistent and even distribution of light also can help reduce quality issues, note team leads on the manufacturing floor, because glare on production lines, and shadows inside drive cabinets, are illuminated evenly.

$23,300 in Energy Savings; Plus $21,800 Rebate; 102 tons in Reduced CO2/Yr – in Factory

However, the clearest benefit of all is cost savings, both realized and unrealized. The retrofit achieves $23,300 in energy savings per year – an 18% reduction in the energy used to power factory lights. And each light fixture carries with it a $90 rebate from local energy supplier Wisconsin Electric Company; in total, ABB New Berlin will receive a $21,800 rebate, once the installation is complete.

These energy savings, plus rebate, calculates to a payback period of two years! In total, New Berlin, to date is realizing more than 25 percent in energy savings ($35,300) per year, $29,200 in rebates, and the reduction of 193 tons of CO2 per year.

Additionally, unrealized savings include cooling-cost savings, due to the reduction of heat produced by the fixtures, reduction of peak-demand surcharges, and reduction in maintenance costs. Actual energy savings for the factory will be known, as utility bills arrive following completion of the retrofit.

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The ABB New Berlin factory prior to lighting retrofit.

New lighting in center bay at drives factory in New Berlin facility.

The old metal halide lighting fixtures and bulbs will be recycled.

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